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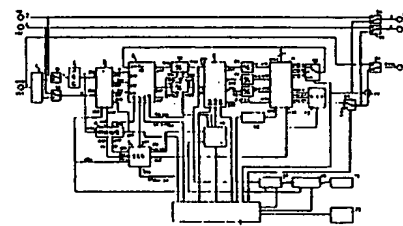
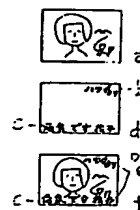
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**(54) COLOR VIDEO PRINTER**

(11) 2-92641 (A) (43) 3.4.1990 (19) JP  
 (21) Appl. No. 63-244184 (22) 30.9.1988  
 (71) HITACHI LTD(1) (72) SATORU YOSHIDA(4)  
 (51) Int. Cl. B41J2/00, B41J2/52, H04N9/79

**PURPOSE:** To obtain a printed image without disturbance of an input video signal by employing a common single clock for writing/reading an image memory, and providing an overlay memory separate from a printing image memory as an image memory, and overlay data inserting means at the rear stage of the image memory.

**CONSTITUTION:** If a hand-written character is desired to be overlaid to be printed on an image, a telop is formed, imaged by a video camera, and input from an input terminal 151, 152 or 153. A Y signal decoded by a decoder 3 is clamped by an A/D preprocessor 6, converted by an A/D converter 71, and recorded in an overlay memory in an image memory 8 as ON, OFF signals "0", "1". Then, when the memory is set in a reading state, the content of the memory 8 is D/A-converted, and regulated by a regulator 11. On the other hand, the content of the overlay memory and a color signal determined by a color selector 12 are input to an overlay inserting circuit in the regulator 11, a video signal and a color signal are switched t the timing of the signal from the overlay in the overlay inserting circuit to form an overlaid video signal.



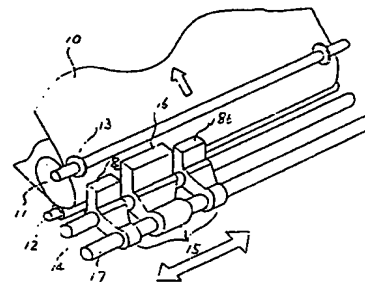
1: Y/c separator, 10: memory controller, 11: system controller, 14: line memory, 15: halftone controller, 16: heat sensitive head, 17: printing mechanism, a: image memory data, b: from Hawaii, c: line from Hanako, d: overlay memory data, e: overlaid characters, f: printing/monitoring image

**(54) INK JET RECORDER**

(11) 2-92642 (A) (43) 3.4.1990 (19) JP  
 (21) Appl. No. 63-246708 (22) 30.9.1988  
 (71) SEIKO EPSON CORP (72) KENICHI KANBAYASHI  
 (51) Int. Cl. B41J2/01, B41J29/00

**PURPOSE:** To improve fixing strength by providing a thermal head for thermally fixing ink composition after flying and adhering.

**CONSTITUTION:** An ink jet head 16 has a plurality of nozzles capable of controlling injection of ink droplets independently of the head 16, swept in the axial direction of a platen, and ink droplets are selectively discharged from the nozzles to form an ink image on a recording sheet 10. Thermal heads 18a, 18b having a plurality of heaters capable of controlling dot heating independently follow the head 16, and scanned axially of the platen. In case of unidirectional printing, only the head 18a is heated. In case of bidirectional printing, the head 18a is heated at the time of rightward printing, while the head 18b is heated at the time of leftward printing, and an ink image formed by the head is selectively heated and fixed. Thus, the dots are blurred flatly, the dots are partly resolidified in a state of penetration into fiber near the surface of a recording sheet. Accordingly, fixing strength is satisfactory, scuffing resistance is provided, and high adhesive properties, high printing quality can be obtained.

**(54) INK JET HEAD**

(11) 2-92643 (A) (43) 3.4.1990 (19) JP  
 (21) Appl. No. 63-246705 (22) 30.9.1988  
 (71) SEIKO EPSON CORP (72) FUMIO NAGASAKA  
 (51) Int. Cl. B41J2/045, B41J2/015

**PURPOSE:** To facilitate a constitution, and to print at a high speed by varying a shape by means of thermal expansion of the surface of a wall face member upon heating of a heat generating layer.

**CONSTITUTION:** An annular movable wall 16 of polyethylene is deposited on its outer wall with TaSiO<sub>2</sub>, 2, and coupled with an aluminum-deposited PET film 15 via conductive adhesive. One of the PET films of the wall 16 continues with a common electrode 17, and the other is composed to be applied with an electric signal. When the wall 16 is electrified, the temperature of the deposited TaSiO<sub>2</sub> layer starts rising on the outer wall of the part 16, the polyethylene of the part 16 causes temperature difference between the outer wall and the inner wall, a bending stress acts between the outer wall and the inner wall by means of thermal expansion to alter the shape of the movable wall. When the electrification is finished, the shape of the wall is recovered to the original shape. The part surrounded by a cylindrical shape is caused by a volumetric change in this series of operations, and the variation is discharged from a nozzle 12.

